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AIRBORNE NOISE LEVELS ON US NAVY SHIPS

D. R. Lambert

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FOREWORD

This document has been prepared for the Naval Sea Systems Command (NAVSEA 05H) for general guidance in development of noise standards for US Naval ships. It is one of several dealing with various aspects of noise as related to habitability and the safety of personnel aboard Navy ships.

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INTRODUCTION

This paper presents airborne noise data obtained in Navy shipboard compartments in support of an evaluation of airborne noise criteria on Navy ships. Additional reports which interpret these data are being prepared. They will present statistics on the relationship between present noise levels and existing noise limits; they correlate sound levels with subjective ratings of the effects of the noise obtained concurrently by questionnaire; and they recommend noise limits for future use.

PROCEDURE

A-weighted, C-weighted, and octave band sound pressure levels were measured on a not-to-interfere basis in compartments aboard 8 US Navy ships. These ships were the CV-61, CV-64, DD-972, DD-976, DDG-13, FF-1063, LST-1185, and LST-1191.

The measured compartments included the following types:

- Pilot houses/bridges
- Logrooms/chartrooms
- Wardrooms
- Command, control, and communication spaces
- Offices
- Workshops
- Lounges/recreation areas
- Staterooms (SR)
- Large berthing compartments
- Medical compartments
- Libraries

Engineering spaces were not included.

RESULTS

Tables 1 through 8 report data for underway measurements for 8 ships; tables 9 through 13 report cold iron data for five of these ships.

The following kinds of data are reported for each compartment:

- (1) Compartment name and number.
- (2) Estimated room volume (calculated from measured or estimated room dimensions).
- (3) Estimated room absorption. The number reported is 0 for a room with reflecting surfaces, and 1 for a room with absorbent surfaces. To calculate this number, each of the six room surfaces was rated as 0 (acoustically hard or reflective), 1, or 0 (soft or absorbent), and the sum of these six ratings was divided by 12.
- (4) Sound pressure levels. A-weighted, C-weighted, and octave band sound pressure levels were measured using one or more of the following sound level meters: GR 1933, GR 1982, B&K 2204, B&K 2215, and, where so indicated, IVIE-10A. Calibration was acoustically checked before and after each day's measurements.
- (5) Microphone locations. Measurements were often made at more than one location within a compartment. The approximate location is described in terms of a grid which divides a compartment into nine areas defined by starboard (stbd), center (cntr), port; and forward (fwd), center (cntr), aft.
- (6) Comments. These provide additional information, such as specific equipment operating.

Table 1. Underway airborne noise data for USS RANGER (CV-61)

Compart. Name & Number	Vol	Abs (A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MJC Location	Comments
Wardroom 1	03-39-0	3.5	.50	60	78	79	64	58	55	49	46	40	stbd end	
ORD Workshop	03-74-6Q		.33	82	89	82	83	79	76	75	72	63	stbd aft	
ORD Workshop	03-74-6Q		.33	82	85	92	98	107	98	95	92	81	-	flt ops cat 2
Capt.'s Office	03-79-3Q	1.8	.08	58	69	60	65	58	55	54	50	44	port aft	
Capt.'s Office	03-79-3Q	1.8	.08	61	70	63	66	63	64	57	52	47	port aft	
Capt.'s Office	03-79-3Q	1.8	.08	86	96								port aft	flt ops stbd cat
Capt.'s Office	03-79-3Q	1.8	.08	90									port aft	flt ops stbd cat
Capt.'s Office	03-79-3Q	1.8	.08										port aft	flt ops
Officer's Berth	03-84-4L		.33	48	62	63	58	50	47	43	41	38	near bunk	
Air Dpt. Office	03-99-6Q	3.8	.67	60	71	65	65	63	61	60	51	47	port aft	
CIC	03-109-2C	4.3	.67	76	79	81	81	84	78	72	72	59	center	
V1 Div. Office	03-124-5A	2.2	0	69	77	71	72	67	66	61	63	60	port aft	
Nav.'s Office	03-127-13Q	.96	0	66	75	70	70	67	58	58	53	58	port fwd	
Officer's SR	03-149-03L	1.4	.08	56	72	70	67	58	58	52	46	40	center	
CPO Berthing	03-162-0L	6.8	0	59	76	73	70	58	55	49	46	37	ctr; end bunks 55-60	
V3 Berthing	03-212-0L	.42	0	65	76	73	70	61	64	65	49	46	stbd end	
Aft Crew Berth.	03-236-1L	6.8	0			62	90	62	59	50	47	50	center	low freq rumble
Train. Off.	03-236-4Q	3.0	0	75	85	71	80	71	71	74	71	67	center	movie on
SR	03-32-1L	.96	.33	56	70	60	67	61	61	55	49	42	center	
Officer's SR	02-37-1L	1.4	.08	-										
Officer's SR	02-42-1L	1.0	.17	55	69	57	63	54	54	48	39	39	stbd aft	personal radio
01 Berthing	01-21-0L	0	0	62	75	73	65	59	61	57	48	45	near center	
Crews Berth.	01-29-0L	31.5	0	61	71	66	69	60	57	54	47	42	stbd aft	
V3 Div. Off.	01-132-2Q	2.0	.08	77	88	86	80	86	80	74	65	50	stbd aft	
Hang. Ok Con.	01-134-2Q	1.3	.67	72	82	72	78	73	73	68	57	52	center	low freq blwr in adj rm
Sick Bay Hall	2-97-2Q	.90	0	68	79	74	73	70	69	67	59	54	end of bench	
Sick Bay Off.	2-97-6L	.90	0	61	73	67	67	63	61	54	52	45	cntr fwd	
Engr. Logroom	2-132-0Q	0	0	63	73	65	68	68	58	57	53	48	cntr aft	
1st Lt's Off.	2-150-1L	2.6	0	62	76	76	70	67	61	57	49	43	cntr fwd	
Wardroom II	2-162-0L	.17	.67	67	79	76	74	72	65	64	56	53	port aft	
Library	2-207-1L	.67	.67	68	80	73	76	67	65	59	48	40	port fwd	movie on TV

Data transcribed from form NOSC 3960/15. Survey date: 19 July 78. Ship underway.
 Surveyed by DRL, DRS, RKG, JAH. Instrumentation: GR 1933 or IVIE 30A.

Table 2. Underway airborne noise data for USS CONSTELLATION (CV-64)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
SR 03-84-0L	2.9	.08	69	80	78	80	72	69	69	65	58	53	48	stbd fwd	2 vent ports open
SR 03-84-0L	2.9	.08	66	78	78	74	73	63	65	63	52	45	37	stbd fwd	vent ports closed
SR 03-84-0L	2.9	.08	77-80		aircraft fuel transfer pump on.									stbd fwd	vent ports closed
SR 03-84-0L	2.9	.08	73	81	72	71	74	73	71	69	63	58	55	cntr aft;	under vent; vent open
SR 03-84-0L	2.9	.08	65	78	72	68	65	64	62	61	53	45	38	cntr aft;	under vent; vent clsd
SR 03-84-0L	2.9	.08	82-94											stbd fwd	flt ops dk above
			85	98											
OPS Office 03-100-0Q	3.9	.33	64	71	63	60	67	56	57	52	49	43	42	stbd aft	no flt ops
OPS Office 03-100-0Q	3.9	.33	60	72	76	64	60	56	52	57	45	40	33	port aft	no flt ops
OPS Office 03-100-0Q	3.9	.33	64	70	65	70	61	61	59	55	56	49	45	port aft	typwtr & radio
OPS Office 03-100-0Q	3.9	.33	74-85											port aft	flt ops dk above
Train. Off. 03-123-4Q	1.4	.17	71	76	69	65	71	62	64	66	62	56	57	cntr aft	no flt ops
Train. Off. 03-123-4Q	1.4	.17	70	75	72	64	68	66	58	66	64	59	55	cntr fwd	no flt ops
Train. Off. 03-123-4Q	1.4	.17	62	74	73	65	60	55	55	58	52	46	45	cntr fwd	air cond off
HRMO Chapl Off. 03-157-6Q	.78	.83	68	77	72	68	74	71	66	64	59	47	45	at desk	
HRMO Off. 03-157-6Q	1.7	.17	65	74	72	69	68	61	59	60	56	50	46	center	
Library 03-159-6L	4.9	.17	66	81	78	80	70	60	58	60	61	56	50	cntr fwd	
Library 03-159-6L	4.9	.17	65	71	67	67	63	57	61	62	58	51	42	cntr fwd;	later; rattling lines
Library 03-159-6L	4.9	.17	83	91										cntr fwd;	dragging line overhead
Library 03-159-6L	4.9	.17	92	95	max peak hold meas during landing									cntr fwd	
Crews Berthing 02-21-0L	17.3	0	73	82	72	76	76	76	72	68	60	50	52	stbd fwd	near door
Crews Berthing 02-21-0L	17.3	0	66	77	75	74	67	64	61	56	55	51	55	port cntr	
Crews Berthing 02-21-0L	17.3	0	89	94	max meas during aircraft takeoff									port cntr	
CIC 02-39-0C	5.3	.67	69	74	72	77	64	67	67	62	62	56	47	port fwd	
CIC 02-39-0C	5.3	.67	72	76	69	64	65	66	70	64	60	59	53	stbd aft	
CIC 02-39-0C	5.3	.67	76	80	75	73	70	72	76	70	69	64	53	center	
V3 Berthing 01-29-0L	14.0	0	60	70	65	60	57	60	61	65	50	42	38	center at	locker 32 betw mirrors
V3 Berthing 01-29-0L	14.0	0	60	70	65	60	57	54	55	63	54	45	32	stbd cntr	
V3 Berthing 01-29-0L	14.0	0	71	78	70	70	75	74	73	65	55	47	44	port fwd	
1st Lt.'s Off. 01-84-4Q	1.1	.08	65	78	70	72	70	65	63	58	55	42	42	stbd cntr	
Mainten. Contr. 1-49-2Q	2.9	0	74	81	65	79	75	75	74	70	65	59	48	port cntr;	near vent on high
Mainten. Contr. 1-49-2Q	2.9	0	68	77	71	72	68	69	67	67	58	53	46	port cntr;	near vent on low
Mainten. Contr. 1-49-2Q	2.9	0	67	77	76	72	69	66	64	62	58	53	46	stbd aft;	near desk

Table 2. Continued.

Hangar Dk Contr	1-119-2Q	1.0	.42	77	84	72	78	72	75	76	72	67	62	57	cntr aft	door open (normal)
Hangar Dk Contr	1-119-2Q	1.0	.42	69	75	68	65	64	70	69	70	58	55	52	stbd aft	door closed
Crews' Mess	2-49-0L	13.2	.08	73	81	75	75	77	77	72	67	62	62	60	cntr fwd	near vend. machine
Crews' Mess	2-49-0L	13.2	.08	78	85	76	75	75	77	70	71	66	67	65	port cntr	
Crews' Mess	2-49-0L	13.2	.08	75	82	76	76	74	73	70	72	63	59	56	stbd cntr	
Wardroom 2	2-54-1Q	20.0	.08	63	79	73	70	67	64	58	55	50	52	49	center	
Wardroom 2	2-54-1Q	20.0	.08	60	77	70	68	65	60	57	55	48	49	45	cntr fwd	
Wardroom 2	2-54-1Q	20.0	.08	62	81	81	75	68	64	55	54	48	49	46	stbd aft	
Medical Ward	2-106-0L	7.0	.17	56	70	70	71	68	60	62	51	48	45	37	center	
Chaplains Qtrs.	2-124-6L	.94	.17	68	79	80	74	65	71	66	58	53	54	63	center	
Wardroom	2-157-2L	5.1	.17	62	75	70	65	62	68	62	55	44	47	37	port cntr	
Wardroom	2-157-2L	5.1	.17	65	74	68	70	64	64	63	55	52	50	41	stbd aft	
Crew's Mess	2-186-0L	.08	.08	70	85	83	75	79	71	71	65	55	53	52	center	
Crew's Mess	2-186-0L	.08	.08	75	86	83	78	78	71	74	71	63	60	57	port aft	
Photo Lab	3-98-1Q	1.3	.17	72	81	71	83	79	73	72	66	58	53	48	small rm: cntr fwd	
Photo Lab	3-98-1Q	1.3	.17	69	79										small rm: port aft	
Photo Lab	3-98-1Q	3.7	0	78	85	69	78	80	80	75	75	68	63	57	large rm: stbd fwd	
Photo Lab	3-98-1Q	3.7	0	75	81	62	66	73	74	70	68	61	57	50	large rm: cntr aft; TV on	
Photo Lab	3-98-1Q			90	95	3 ft from recirc blower; blwr on										
Photo Lab	3-98-1Q			64	77	3 ft from recirc blower; blwr off										
Photo Lab	3-98-1Q	0		68	79	recirc blower off										
CP0 Berthing	3-106-0L	19.1	0	71	83	77	72	75	79	67	62	58	57	54	large rm: stbd fwd	
CP0 Berthing	3-106-0L	19.1	0	64	75	76	65	60	65	60	51	51	52	48	port cntr	
CP0 Berthing	3-106-0L	19.1	0	57	70	65	58	60	56	54	50	48	52	41	port fwd	
CP0 Berthing	3-167-0L	29.8	0	70	77	67	74	65	71	68	65	55	56	50	stbd cntr	
CP0 Berthing	3-167-0L	29.8	0	58	70	65	62	55	53	53	52	43	47	37	center	
CP0 Berthing	3-167-0L	29.8	0	57	69	69	66	57	55	56	55	42	48	40	port cntr	
CP0 Mess	3-177-0L	10.2	.08	66	76	72	68	70	68	65	60	55	49	44	stbd aft	
CP0 Mess	3-177-0L	10.2	.08	64	76	72	70	69	69	66	61	54	53	48	port aft	
CP0 Mess	3-177-0L	10.2	.08	74	81	71	72	76	72	71	67	67	51	52	center	
P2/P3 Berthing	3-205-01L	28.5	0	62	75	64	70	67	65	63	55	48	45	45	stbd aft	
P2/P3 Berthing	3-205-01L	28.5	0	58	70	65	67	60	56	55	52	45	40	35	port cntr	
P2/P3 Berthing	3-205-01L	28.5	0	66	78	75	74	74	69	64	60	55	52	43	center	

Data transcribed from form NOSC 3960/15. Survey date: 15 June 78. Ship underway.

Surveyed by DRL, JAH, RPK, LM. Instrumentation: GR 1933 or GR 1982.

Comments:

5 point 740-1 measurements on tow truck GPC-2 on hangar deck: A level: 99 93 94 91 92 (above)
150 ft away from tow truck: A level 76; C level 86. C level: 107 102 103 106 106 (above)

Table 3. Underway airborne noise data for USS OLDENDORF (DD-972)

Compart. Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Radar 1	03-154-02Q	4.8	.17	76	78	82	70	74	76	78	74	68	62	stbd aft	*IVIE-10A
Radar 1	03-154-02Q	4.8	.17	74	80									cntr aft	*IVIE-10A
Radar 1	03-154-02Q	4.8	.17	72	76									port ctr	*IVIE-10A
CIC	02-139-0C	8.9	.75	68	75	72	68	68	70	64	63	60	55	center	
CIC	02-139-0C	8.9	.75	69	78	72	72	72	74	65	61	57	52	cntr aft	
CIC	02-139-0C	8.9	.75	65	73	67	68	65	64	62	60	55	51	port fwd	
Sonar Control	02-139-2C	2.4	.83	57	72	74	65	63	55	48	42	52	47	cntr aft	
Sonar Control	02-139-2C	2.4	.83	61	73	72	64	62	53	52	57	54	48	port aft	
Sonar Control	02-139-2C	2.4	.83	62	71	72	60	65	52	50	55	52	45	stbd aft	
Trans. Room	02-234-1	5.2	.08	84	86	72	74	74	74	77	78	77	67	cntr aft	
Trans. Room	02-234-1	5.2	.08	86	86	72	74	73	75	77	79	81	76	cntr aft	ANSRC31BX rcvr on
Trans. Room	02-234-1	5.2	.08	81	83	77	71	72	74	75	76	73	65	stbd fwd	
Trans. Room	02-234-1	5.2	.08	80	82	77	74	73	72	74	74	73	63	port fwd	
Trans. Room	02-234-1	5.2	.08	84	85	75	75	75	76	77	76	78	76	port ctr	ANSRC31BX rcvr on
Data Proc. Cen.	01-138-0C	7.8	.83	74	82	82	72	72	72	71	70	67	59	stbd ctr	
Data Proc. Cen.	01-138-0C	7.8	.83	75	83	83	71	72	71	69	70	69	58	port ctr	
Data Proc. Cen.	01-138-0C	7.8	.83	71	85	88	70	71	65	66	66	64	56	cntr aft	
Data Proc. Cen.	01-138-0C	7.8	.83	72	84	63	73	75	75	65	68	62	57	port fwd	
Wardroom	01-274-2	6.3	.58	66	75	70	65	65	71	65	58	53	42	center	
Wardroom	01-274-2	6.3	.58	71	81	71	69	67	79	65	58	56	44	cntr fwd	
Wardroom	01-274-2	6.3	.58	65	73	68	65	63	71	64	56	55	42	cntr fwd	near TV
Stateroom 3	01-346-1L	1.3	.50	72	72	60	63	62	57	59	66	67	62	center	
Crew's Rec. Rm.	1-205-1	2.4	.17	72	81	67	77	75	74	72	68	62	56	center	
Crew's Rec. Rm.	1-205-1	2.4	.17	70	80	72	76	82	71	63	60	60	55	port fwd	
Crew's Rec. Rm.	1-205-1	2.4	.17	72	80	72	76	76	73	66	69	67	55	stbd fwd	*IVIE-10A
Weapons Berth	2-149-0L	7.7	.17	54	72	71	67	60	57	52	52	54	50	stbd fwd	*IVIE-10A
Weapons Berth	2-149-0L	7.7	.17	60	70	68	66	60	54	54	56	54	42	port fwd	*IVIE-10A
Weapons Berth	2-149-0L	7.7	.17	57	72	74	66	63	54	46	50	52	40	stbd aft	*IVIE-10A
1st Div. Berth	3-146-0	7.6	.42	58	72	74	67	63	62	52	52	56	42	center	*IVIE-10A
1st Div. Berth	3-146-0	7.6	.42	58	72	72	64	62	56	50	50	46	40	port ctr	*IVIE-10A
1st Div. Berth	3-146-0	7.6	.42	58	72	72	68	64	58	52	52	48	46	stbd ctr	*IVIE-10A

Table 3. Continued.

OPS Berthing	3-346-01L	11.1	.33	57	69	68	61	62	61	53	58	50	46	40	center
OPS Berthing	3-346-01L	11.1	.33	53	66	66	62	60	56	50	46	46	42	38	port cntr
OPS Berthing	3-346-01L	11.1	.33	60	70	68	62	62	60	58	50	54	54	42	stbd cntr
Mid ship qtrdk.															
Crew's Mess			.50	70	76	77	70	70	66	64	57	61	56	50	center
Crew's Mess			.50	71	79	76	71	76	66	66	66	65	58	51	stbd cntr
Crew's Mess			.50	68	79	74	70	75	74	72	57	54	55	47	port fwd

Data transcribed from form NOSC 3960/15. Survey date: 19 April 78. Ship underway.
 Surveyed by ES, RPX. Instrumentation: GR 1982; or, where indicated by an *, IVIE-10A.

Table 4. Underway airborne noise data for USS MERRILL (DD-976)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	53	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Radar Room	03-154-02Q	4.8	0.0	82	85	80	67	74	69	74	75	77	76	76	stbd aft nr SPQ9A; all equip opr
Radar Room	03-154-02Q	4.8	0.0	81	83	81	71	71	74	73	76	74	74	69	port aft at desk; all equip opr
Radar Room	03-154-02Q	4.8	0.0	82	86	80	73	73	76	77	78	74	75	69	port fwd all equip opr
Sonar Control	02-139-2C	2.4		63	76	76	71	62	51	51	56	56	58	51	center tracking sub
Sonar Control	02-139-2C	2.4		64	81	75	73	56	52	51	62	55	49	40	center tracking sub
Sonar Control	02-139-2C	2.4		66	72	67	65	62	54	52	58	62	52	43	stbd aft tracking sub
Data Proc. Cen.	01-138-0C	7.8	.83	74	78	73	70	72	68	68	71	68	64	57	center at desk
Data Proc. Cen.	01-138-0C	7.8	.83	75	79	74	71	73	70	70	71	69	64	58	stbd aft nr MX8450R1
Data Proc. Cen.	01-138-0C	7.8	.83	72	78	74	65	70	67	66	68	64	61	56	port fwd
Data Proc. Cen.	01-138-0C	7.8	.83	73	77	76	68	70	66	66	71	65	61	55	center aft nr control stn
Wardroom	01-291-2L	6.3	.58	56	77	76	73	65	57	51	50	44	49	41	stbd cntr
Wardroom	01-291-2L	6.3	.58	57	81	81	76	64	60	52	50	47	50	41	port aft
Wardroom	01-291-2L	6.3	.58	56	76	76	73	65	57	50	48	45	44	42	port fwd at table
Stateroom #6	01-358-1L	1.2	.17	65	78	71	68	77	54	48	51	59	59	50	cntr fwd nr bunks
Stateroom #6	01-358-1L	1.2	.17	66	79	70	65	78	55	50	51	59	59	50	port fwd
Stateroom #6	01-358-1L	1.2	.17	63	70	66	60	63	49	49	51	59	59	48	cntr aft nr desk
CPO Berthing	1-224-0L	5.5		71	84	84	73	81	78	66	57	52	52	48	port fwd
CPO Berthing	1-224-0L	5.5		61	76	75	70	72	62	57	52	49	49	46	port aft
CPO Lounge	1-248-1L	1.8	.50	64	79	78	75	74	67	60	53	53	57	51	port cntr
CPO Lounge	1-248-1L	1.8	.50	66	82	79	74	79	66	59	51	51	54	48	above Eng Rm
CPO Mess	1-260-1L	4.0	.50	60	74	74	68	67	60	55	51	51	50	46	above Eng Rm
Nav.'s Statrm.	1-365-2L	1.3	.17	61	76	60	61	76	51	44	45	52	50	41	center
Nav.'s Statrm.	1-365-2L	1.3	.17	54	61	60	57	52	45	44	47	50	45	40	cntr fwd nr bunk; whine; vent on
Nav.'s Statrm.	1-365-2L	1.3	.17	57	71	66	60	69	48	44	46	51	50	40	cntr fwd nr bunk; whine; vent off
Nav.'s Statrm.	1-365-2L	1.3	.17	63	79	70	64	79	54	46	47	53	52	43	stbd fwd nr desk; turbine whine
Sick Bay	1-382-0L	1.6	.05	61	75	74	64	68	63	56	55	50	45	38	center, at exam table
Sick Bay	1-382-0L	1.6	.05	61	74	73	64	67	61	58	56	50	44	38	port cntr, at desk
Sick Bay	1-382-0L	1.6	.05	57	82	85	65	64	60	53	51	46	42	33	port aft, nr bunks
Barber Shop	1-414-1	1.0	.17	64	83	85	68	73	65	58	59	54	52	45	port cntr, nr barber chair
Barber Shop	1-414-1	1.0	.17	65	81	83	72	74	66	60	61	55	53	48	stbd aft, nr chairs
Bos'n #3	1-434-0A	2.8	0.0	60	78	78	72	62	54	53	50	52	45	45	-; Boiler rm 3 not op; 15 rls rope

Table 4. Continued.

Cent Cntrl Stn. 2-272-0C	8.3	.67	62	84	85	76	75	61	57	52	50	50	46	port aft
Cent Cntrl Stn. 2-272-0C	8.3	.67	62	82	83	76	74	60	55	52	52	50	45	stbd cntr
Cent Cntrl Stn. 2-272-0C	8.3	.67	60	80	78	73	65	60	56	56	52	50	45	port cntr

Data transcribed from form NO5C 3960/15. Survey date: 3 May 78. Ship underway.
 Surveyed by ES, OCC. Instrumentation: B&K 2209.

Table 5. Underway airborne noise data for USS HOEL (DDG-13)

Compart. Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	16k	MIC Location	Comments
Pilot house	02-		72													
Chartroom	02-59-2C	0.4	.50	78	67	68	73	60	60	64	56	48	49		center	
CO Sea Cabin	02-60-1	.40	.50	68	64	61	53	45	40	41	36	33	30	27	stbd fwd in bunk	
CIC	02-		52													
Missile Fire Control:																
(Lg. Rm. 1)	02-123-0C	1.3		86	81	77	75	71	70	71	69	61	54	45	center	
(Sm. Rm. 2)	02-123-0C	.5		85	83	82	72	68	63	65	59	54	47	38	center	
Offcr. WC/Shwr.	01-67-1L		70													
Radio Central	01-	.17		83	77	76	73	71	63	70	72	67	65	64	-	
Sec Voice Area	01-	.17		83	72	71	73	65	65	66	62	59	54	48	-	
Trans. Rm.	01-	.17		84	74	75	77	75	71	74	72	67	58	49	-	
Shredder Rm.	01-73-1Q	0.1		86											-	shredding 1 piece of paper
ASROC OK Outside		inf		70											est. ship speed 20 Kt; est. rel. wind speed 3-5 Kt	
Grd Shp/Com Sto	01-111-0Q	.02	0	83	75	76	73	72	70	65	59	51	42		stbd fwd near door	
Wardroom	1-51-0L	4.8	.25	74	66	69	71	60	53	53	50	44	35		-	
Wardroom Galley	1-51-1Q		77													
Offcr. WC/Shwr.	1-55-2L		58													
Radar Room #1	1-121-0Q		68	91	84	84	76	74	70	68	65	62	55	47	cntr fwd	all equip on
Radar Room #1	1-121-0Q		74	87	stbd aft; 3 ft from										center	all equip on
Radar Room #1	1-121-0Q		76	85	stbd aft; 3 ft from										HD-366/SP electr tube liq cooler w/ doors closed	
Radar Room #1	1-121-0Q		84	86	stbd aft; 3 ft from										HD-366/SP electr tube liq cooler w/ doors open	
Radar Room #2	1-75-2Q		75	84	79	72	76	74	71	69	65	68	57	49	center	
Radar Room #2	1-115-2L	1.2	.50	81	77	73	73	72	66	66	65	64	59		-	
Jr. Officers. SR	1-116-1L	1.0	.75	83	73	77	78	66	71	71	68	61	56	44	cntr aft	Air Cond. ON
Sickbay		1.0	.75	65	77	76	68	70	52	58	55	48	50	43	cntr aft	Air Cond. OFF
Sickbay	1-116-1L	1.0	.75	69	80										port cntr	Air Cond. ON
Sickbay		1.0	.75	66	77										port cntr	Air Cond. OFF
Engr. Off. SR	1-122-2L	0.7	.42	72	79	74	76	71	72	65	62	67	66	56	-	
Supply Off. SR	1-131-2L	.71	.58	76	66	72	72	63	62	58	58	55	51		-	
Berthing 2-15 to 23-0L		11.5		52	70	65	63	58	53	43	47	44	42	45	39	port fwd
Officer SR	2-43-2L	1.5	.33	57	73	67	71	66	61	55	52	46	42	33	-	
Berthing 2-163 to 183-2L		3.2	.33	68	90	89	89	72	62	67	59	53	48	38	35	port aft; STRONG LOW FREQ RUMBLE AND VIBR FROM SHAFT

Table 5. Continued.

Sonar Control 3-39-1C	.25	0.5	70	78	65	67	65	70	69	69	58	53	47	41	-	computer rm
ASH Control Rm. 3-39-C			68	80												unmanned
Sonar Eq. Rm #2 3-39-2Q	1.4	.50	74		64	70	73	68	67	70	68	61	54	48	center	

Data transcribed from form NO5C 3960/15. Survey date: 10 May 79. Ship underway.
 Surveyed by DRL, JAH. Instrumentation: B&K 2215.

Table 6. Underway airborne noise data for USS REASONER (FF-1063)

Compart. Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Pilot House	02-46-0C	--	--	71	75	68	70	61	66	66	69	68	63	51	cntr fwd; speech; gun directr on
Pilot House	02-46-0C	--	--	64-71	is range of A-levels in pilot house										
Sonar Control	01-70-01C	2.4	.83	57	67	61	63	59	63	52	51	44	42	45	center
Sonar Control	01-70-01C	2.4	.83	60/57											stbd/port cntr
ET Shop	1-70-0Q	1.4	0.0	62	75	74	64	68	65	55	55	50	42	42	center
Radar	1-70-1Q	1.4	.08	77	78	74	63	68	65	69	71	71	67	63	cntr fwd
OPS Officer SR	1-79-1L	0.8	.25	68	76	75	70	69	66	66	63	61	64	53	- Forced draft blwr dominant
OPS Officer SR	1-79-1L	0.8	.25	69	77	76	71	71	66	65	62	62	58	53	- FDB less dominant
Weapon. Offcr. SR	1-101-2L	1.1	.25	A-levels: 68	cntr fwd at desk; 66 stbd fwd										at bunk; 70 stbd aft.
XO SR	1-103-1L	1.0	.25	63	74	68	70	66	65	59	58	54	48	40	cntr fwd
Wardroom	1-109-0L	3.0	.42	64	72	63	63	65	65	61	60	54	45	38	- air recirc sys for rms above
Sick Bay	1-118-0L	1.1	0	58	74	70	69	66	62	59	53	48	40	34	port cntr
Sick Bay	1-118-0L	1.1	0	A-levels: 55 - 59											
Crew Berthing	2-29-0L	9.1	.50	62	74	74	64	66	63	58	55	52	50	37	port cntr at desk
Crew Berthing	2-29-0L	9.1	.50	61	71	64	62	64	60	58	55	51	48	37	center near patient table
Crew Berthing	2-29-0L	9.1	.50	A-levels: 60 - 64											
DC Central	2-54-0Q	1.9	0	55	67	62	64	59	57	52	47	45	39	36	cntr aft
Supply Office	2-54-01L	1.4	0	55	67	62	64	59	57	52	47	45	39	36	center
Ships Office	2-61-2Q	0	0	A-level of alarm: 65 dB											
Disbursing Off.	2-61-3Q	0.8	0	59	69	68	61	62	59	59	53	48	46	39	center
Mess Decks	2-107-0L	6.9	0	63	71	61	66	63	63	61	58	55	51	43	-
Chfs. Qtrs/Lng.	2-121-01L	1.7	.42	73	76	64	70	68	69	69	63	60	52	44	center
Chfs. Qtrs/Lng.	2-121-01L	1.7	.42	A-levels: 71 - 75											
48 Torpedo Room	2-147-0M	.83	.83	58	71	66	65	64	57	57	50	49	42	34	-
				A-levels: uniform											
				69	77	74	74	72	67	68	66	62	53	47	center
				A-levels: 70 cntr fwd; 65 cntr aft											
				59	71	67	64	64	60	57	53	47	45	42	stbd fwd
				A-levels: uniform											
				63	72	62	69	65	58	59	56	52	51	48	port aft
				60	71	69	64	64	51	57	57	51	43	37	center
															music system on used as crew lounge

Table 6. Continued.

Gun Plot	3-41-OC	3.2	.33	72	76	64	67	66	69	71	69	64	58	52	
Weap Berthing	3-45-OL	8.1	.33	51	62	55	55	56	49	47	45	41	37	30	stbd fwd
Electr Central	3-59-OC		.83	74	78	66	66	63	72	74	68	63	66	49	cntr fwd near vent; vent on
				A-levels: 63 - 74											
Electr Central	3-59-OC		.83	64											cntr fwd near vent; vent off
Crew Berthing	3-59-2L	2.5	.17	62	70	67	61	64	60	61	57	51	49	38	stbd cntr
				A-levels: 60 - 63											
Sub Supply	3-116-2Q	1.7	.17	64	76	75	71	70	65	61	59	55	49	42	center
Supply Sup Cen.	4-107-1A	.80	0	66	75	68	70	71	64	61	61	61	51	44	center

Data transcribed from form WOSC 3960/15. Survey date: 5 April 79. Ship underway.
 Surveyed by DRL, DRS. Instrumentation: B&K 2215.

Table 7. Underway airborne noise data for USS SCHENECTADY (LST-1185)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments	
Pilot House	03-73-0C	4.0	.25	68	80	75	75	62	58	63	59	57	53	43	cntr fwd	near radar
Pilot House	03-73-0C	4.0	.25	62-78	80	73	62	56	65	58	58	49	42	port cntr		capt's chair
Pilot House	03-73-0C	4.0	.25	75	80	86	72	66	61	63	65	69	68	52	stbd cntr	
CIC	03-79-2C		.33	74	80	73	74	59	63	62	65	65	63	50	stbd aft	speech
CIC	03-79-2C		.33	73	79	70	70	65	66	73	76	76	77	55	center	speech
CIC	03-79-2C		.33	83	82	active	1dspkr	port side	aft	blkhd				center		speech
CIC	03-79-2C		.33	70	81	73	79	65	60	62	68	65	61	48	stbd cntr	speech
Chart Room	03-79-3C	.74	.58	55	69	67	64	60	54	52	49	48	46	33	-	sonar w/o graph
OPS Officer SR	02-73-2L	.68	.67	57	68	67	62	56	54	53	54	47	41	34	at desk	
OPS Officer SR	02-73-2L	.68	.67	58	65	64	58	55	53	52	53	46	41	34	in berth	
Troop CO SR	02-73-4L	.86	.83	50	68	64	67	57	49	45	44	39	36	33	stbd fwd at desk	
Troop CO SR	02-73-4L	.86	.83	51	69	57-63	69	64	50	45	43	37	34	30-	port aft in berth	
Radio Central	01-82-2C	1.9	.33	78	78	68	67	70	68	71	73	71	72	59	center	
Secure TTY Rm		1.6	.33	78	78	68	72	68	64	68	71	71	71	71	center	
Ship's Office	1-81-2Q	2.2	.50	67	73	66	69	66	69	71	60	57	50	45	center	speech
Log Room	1-89-4Q	1.8	.17	65	76	59	67	74	65	64	55	51	45	42	center	speech
Log Room	1-89-4Q	1.8	.17	58	74	74	60	66	62	59	52	52	43	38	port aft	
Sick bay	2-133-2L			-												
Engr Main Cntrl	4-129-0E	2.9	.33	73	89	90	76	75	76	71	68	61	52	47	stbd cntr	
Engine room				106	108	btwn	diesel	eng #1 and #2;								#2 & #3 secured.
Engine room				101	103	at far	end of	diesel	eng #1;							diesel eng #1 op; #2 & #3 secured.
Crew Lounge	4-132-2L	5.1	.75	73	88	89	82	80	75	72	67	63	53	45	center	

Data transcribed from form NOISC 3960/15. Survey date: 7 Jun 78. Ship underway at anchor.
 Surveyed by DRL, ES. Instrumentation: GR 1982.

Table 8. Underway airborne noise data for USS RACINE (LST-1191)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
CIC	03-79-2C	2.9	.17	72	80	75	70	60	61	65	66	61	50	center	loudspkr.; speech
CIC	03-79-2C	2.9	.17	69	83	82	62	60	62	61	64	63	50	stbd aft	intercom; speech
OPS Officer SR	02-70-0L	.82	.17	50	73	72	62	56	52	46	36	33	30	stbd aft	
OPS Office	02-115-2Q	1.1	.17	55	78	74	76	65	55	49	45	37	36	center	high speed
OPS Office	02-115-2Q	1.1	.17	60	81	73	80	68	57	48	46	39	38	center	
Radio Room	01-89-2C	1.8	.25	76	81	73	68	67	73	72	74	68	63	cntr fwd	
Radio Room	01-89-2C	1.8	.25	81	83	77	69	67	73	72	78	76	65	port fwd	
CPO Mess	01-89-5L	3.6	.25	62	80	80	71	60	68	59	47	37	30	port cntr	
Crew's Mess	1-73-1L	10.	.17	80	85	80	80	80	80	73	70	76	70	port cntr	
Crew's Mess	1-73-1L	10.	.17	72	83	79	78	79	77	70	62	64	57	stbd fwd	
Ship's Office	1-81-2Q	2.2	.21	62	75	75	70	67	64	62	58	55	50	cntr aft	transients?
Ship's Office	1-81-2Q	2.2	.21	64	79	79	72	62	59	63	59	55	49	stbd fwd	transients?
Log Room	1-89-2L	2.3	.08	59	75	74	74	68	62	57	51	49	45	center	speech
Log Room	1-89-2L	2.3	.08	62	81	81	67	72	64	54	53	46	42	stbd fwd	speech
Sickbay	2-133-2L	2.6	.17	65	78	82	76	72	72	61	55	48	44	center	
Sickbay	2-133-2L	2.6	.17	69	83	83	78	75	76	64	57	50	44	cntr aft	air cond on
Sickbay	2-133-2L	2.6	.17	70	83	81	79	75	75	64	61	53	51	cntr aft	eng & gen below dk
OPS Berthing	3-169-1L	5.2	.08	69	88	90	84	74	72	65	64	58	53	stbd cntr	eng & gen below dk
OPS Berthing	3-169-1L	5.2	.08	69	92	92	80	80	71	64	64	55	50	stbd aft	eng & gen below dk
2nd Div. Berth	3-169-2L	4.4	.17	68	85	79	82	74	69	65	63	56	50	port aft	eng & gen below dk
2nd Div. Berth	3-169-2L	4.4	.17	78	87	87	78	78	77	64	62	57	55	cntr fwd	eng & gen below dk
2nd Div. Berth	3-169-2L	4.4	.17	75	89	86	81	82	82	70	64	57	54	stbd cntr	eng & gen below dk
Crew Lounge	4-129-4L	7.2	.29	73	89	87	85	83	74	68	66	64	57	center	eng below dk; TV on
Crew Lounge	4-129-4L	7.2	.29	70	91	91	85	78	70	65	62	58	50	cntr aft	eng below dk; TV on
Crew Lounge	4-129-4L	7.2	.29	73	88	79	83	85	73	68	66	60	59	cntr fwd	eng below dk; TV on

Data transcribed from form WOSC 3960/15. Survey date: 5 Jun 78. Ship underway.
 Surveyed by RPK, LM. Instrumentation: GR 1982.

Table 9. Cold iron airborne noise data for USS RANGER (CV-61)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Wardroom 1	03-39-0	3.5	.50	44	65	60	57	45	44	40	46	35	33	stbd end	
ORD Workshop	03-74-6Q		.33	82	89	82	83	79	76	76	77	75	72	63	
ORD Workshop	03-74-6Q		.33	82	86	92	98	107	98	98	95	92	81		
Capt.'s Office	03-79-3Q	1.8	.08	54	63	68	54	57	49	30	41	37	32	port aft qtr	
Off.'s Berth	03-84-4L		.33	-											
Air Dept. Off.	03-99-6Q	3.8	.67	53	75	78	60	56	57	51	46	40	43	port aft qtr	
CIC	03-109-2C	4.3	.67	65	72	68	64	66	61	61	59	51	56	center	
V1 Div. Office	03-124-5A	2.2	0	62	71	62	63	59	59	60	53	47	46	port aft qtr	
Nav. Office	03-127-13Q	.96	0	67	80	68	79	68	67	64	61	55	54	port fwd	
Officers' SR	03-149-03L	1.4	.08	-											
CPO Berthing	03-162-0L	6.8	0	52	74	60	53	55	48	44	36	38	32	ctr; end bunks 55-60	movie on
V3 Berthing	03-212-0L		.42	60	71	63	74	58	62	59	60	45	46	stbd end	
Aft Crew Berth.	03-236-1L	6.8	0	58	77	63	79	60	62	54	51	39	42	center	low freq rumble
Train. Off.	03-236-4Q	3.0	0	69	84	81	81	70	66	70	64	54	57	center	
SR	03-32-1L	.96	.33	54	65	58	59	57	59	52	48	44	44	center	grinding on dk
Officer's SR	02-37-1L	1.4	.08	55	63	60	65	55	55	54	53	46	47	port aft	
Officer's SR	02-42-1L	1.0	.17	-											
O1 Berthing	01-21-0L		0	59	75	72	64	60	62	56	52	49	46	near center	
Crews Berth.	01-29-0L	31.5	0	61	69	65	65	60	56	56	57	52	53	stbd aft	
V3 Div. Off.	01-132-2Q	2.0	.08	78	89	90	78	86	81	77	70	55	53	stbd aft	
Hang. Dk Con.	01-134-2Q	1.3	.67	72	81	69	76	72	74	73	66	59	46	center	low freq blwr in adj rm
Sick Bay Hall	2-97-2Q	.90	0	61	80	77	75	66	65	64	58	56	50	end of bench	
Sick Bay Off.	2-97-6L	.90	0	57	71	67	65	62	61	58	50	47	44	cntr fwd	
Engr Logroom	2-132-0Q		0	67	74	66	70	67	67	66	57	55	55	cntr aft	
1st Lt's Off.	2-150-1L	2.6	0	60	74	71	65	66	61	55	50	41	49	cntr fwd	
Wardroom II	2-162-0L		.17	59	75	67	69	69	64	57	50	48	47	port aft	
Library	2-207-1L		.67	60	76	67	73	65	64	59	54	49	45	port fwd	

Data transcribed from form NOSC 3960/15. Survey date: 13 June 78. Ship cold iron. Surveyed by DRL, DKS, RGK, JAH. Instrumentation: B&K 1558 or GR 1933.

Table 10. Cold iron airborne noise data for USS CONSTELLATION (CV-64)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
SR	03-84-0L	2.9	.08	-	-	-	-	-	-	-	-	-	-	-	-
OPS Office	03-100-0Q	3.9	.33	55	65	61	57	54	54	52	45	40	38	42	port aft
Train. Off.	03-123-4Q	1.4	.17	59	71	71	65	61	54	51	55	49	50	41	cntr fwd
HRMO Chapl Off	03-157-4Q	.78	.83	-	-	-	-	-	-	-	-	-	-	-	-
HRMO Off	03-157-6Q	1.7	.17	-	-	-	-	-	-	-	-	-	-	-	-
Library	03-159-6L	4.9	.17	60	72	70	65	61	57	60	56	54	50	43	cntr fwd
Crews Berthing	02-21-0L	17.3	0	61	75	73	73	61	66	59	55	51	44	41	port cntr
CIC	02-39-0C	5.3	.67	-	-	-	-	-	-	-	-	-	-	-	-
V3 Berthing	01-29-0L	14.0	0	61	69	66	61	61	60	58	56	46	44	38	cntr at locker 32 betwn. mirrors
V3 Berthing	01-29-0L	14.0	0	63	71	67	62	62	57	63	59	46	45	40	stbd fwd
1st Lt. Office	01-84-4Q	1.1	.08	65	73	62	61	65	67	65	59	54	45	40	stbd cntr
Mainten. Contr	1-49-2Q	2.9	0	72	78	65	72	72	70	70	68	61	52	46	port cntr; near vent on high
Hangar Dk Contr	1-119-2Q	1.0	.42	71	75	57	65	64	71	68	69	62	51	48	stbd aft
Crews' Mess	2-49-0L	13.2	.08	69	78	72	74	69	69	66	62	56	48	43	cntr fwd
Wardroom 2	2-54-1Q	20.0	.08	56	69	66	65	61	56	55	53	50	45	37	center
Medical Ward	2-106-0L	7.0	.17	50	67	65	64	54	54	49	43	37	33	30	center
Chaplains Qtrs	2-124-6L	.94	.17	72	84	82	80	75	79	70	60	49	46	41	center
Wardroom	2-157-2L	5.1	.17	57	68	66	59	59	58	57	50	46	40	35	port cntr
Crew's Mess	2-186-0L	.08	0	70	84	80	79	77	69	66	60	58	54	54	center
Photo Lab	3-98-1Q	0	0	-	-	-	-	-	-	-	-	-	-	-	-
CPO Berthing	3-106-0L	19.1	0	67	77	74	68	75	67	61	58	58	55	48	stbd fwd
CPO Berthing	3-167-0L	29.8	0	71	74	59	68	64	64	69	65	59	52	45	stbd cntr
CPO Mess	3-177-0L	10.2	.08	68	76	67	71	74	67	65	62	60	51	50	stbd aft
P2/P3 Berthing	3-205-01L	28.5	0	61	69	64	66	57	56	59	52	50	44	35	stbd aft

Data transcribed from form NOSC 3960/15. Survey date: 30 May 78. Ship cold iron.
 Surveyed by DRS, JAH, RPK, LM. Instrumentation: GR 1933 or GR 1982.

Table 11. Cold Iron Airborne Noise Data for USS OLDENDORF (DD-972)

Compart. Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Radar 1	03-154-02Q	4.8	.17	75	78	66	62	72	69	70	71	67	66	58	stbd aft
CIC	02-139-0C	8.9	.75	68	74	71	68	65	68	65	61	57	51	45	center
Sonar Control	02-139-2C	2.4	.83	56	70	65	61	60	56	50	51	48	47	45	cntr aft
Trans. Room	02-234-1	5.2	.08	84	85	68	70	70	72	75	78	76	76	71	cntr aft
Data Proc. Cen.	01-138-0C	7.8	.83	70	80	80	69	71	69	67	65	61	56	51	stbd ctr
Wardroom	01-274-2	6.3	.58	74	64	68	68	68	60	54	46	40	34	center	
Stateroom 3	01-346-1L	1.3	.50	-	-	-	-	-	-	-	-	-	-	-	
Crew's Rec Rm	1-205-1	2.4	.17	65	75	61	70	72	66	59	58	58	54	51	center
Weapons Berth	2-149-0L	7.7	.17	58	74	72	69	62	56	54	53	49	44	38	stbd fwd
1st Div. Berth	3-146-0	7.6	.42	63	79	76	69	66	61	58	57	55	53	52	center
OPS Berthing	3-346-01L	11.1	.33	59	71	69	60	63	63	52	48	49	47	40	center
Mid ship qtrdk.				81	88	85	77	79	77	76	70	67	58	58	stbd aft at desk; exhaust noise
Mid ship qtrdk.				90	94	85	87	89	85	88	86	80	74	67	ditto; 5 min later
Crew's Mess		.50		60	74	73	66	69	60	57	60	50	48	45	center

Data transcribed from form NOSC 3960/15. Survey date: 17 April 78. Ship cold iron.
 Surveyed by ES, RPK. Instrumentation: GR 1982.

Table 12. Cold iron airborne noise data for USS SCHENECTADY (LST-1185)

Compart. Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
Pilot House	03-73-0C	4.0	.25	62	71	62	60	53	56	59	54	48	48	cntr fwd	near radar
Pilot House	03-73-0C	4.0	.25	54	68	72	59	50	44	47	49	42	40	port cntr	capt's chair
CIC	03-79-2C		.33	58	75	72	74	59	51	54	53	52	45	stbd aft	
CIC	03-79-2C		.33	62	70	69	72	53	59	58	56	47	41	center	
Chart Room	03-79-3C	.74	.58	56	66	59	63	59	52	51	50	49	48	-	sonar w/o graph
Chart Room	03-79-3C	.74	.58	68	70	57	62	59	54	65	60	57	51	-	sonar with graph
OPS Officer SR	02-73-2L	.68	.67	53	62	58	57	54	52	51	46	42	37	at desk	diesel gen. op.
OPS Officer SR	02-73-2L	.68	.67	53	64	62	58	55	51	53	50	44	40	in berth	diesel gen. op.
Troop CO SR	02-73-4L	.86	.83	47	66	60	64	54	46	42	41	40	36	stbd fwd at desk	
Troop CO SR	02-73-4L	.86	.83	45	66	60	64	53	45	39	38	33	32	port aft in berth	
Radio Central	01-82-2C	1.9	.33	70	75	60	63	63	62	64	67	61	56	center	
Secure TTY Rm		1.6	.33	62	67	64	61	53	57	54	53	50	43	center	
Ship's Office	1-81-2Q	2.2	.50	72	77	62	69	64	74	73	60	55	54	center	speech
Log Room	1-89-4Q		.17	58	65	53	56	62	60	56	48	45	38	center	speech
Sick bay	2-133-2L			62	73	71	67	61	67	55	54	52	49	port cntr	
Engr Main Cntrl	4-129-0E	2.9	.33	65	75	74	67	61	62	61	60	62	58	41	stbd cntr
Crew Lounge	4-132-2L	5.1	.75	61	77	80	67	62	59	58	55	48	40	center	

Data transcribed from form NOSC 3960/15. Survey date: 5 Jun 78. Ship underway at anchor.
 Surveyed by DRL, ES. Instrumentation: B&K 2209.

Table 13. Cold iron airborne noise data for USS RACINE (LST-1191)

Compartment Name & Number	Vol	Abs	(A)	(C)	32	63	125	250	500	1k	2k	4k	8k	MIC Location	Comments
CIC	03-79-2C	2.9	.17	58	71	71	63	56	54	52	49	48	48	39	center
OPS Officer SR	02-70-0L	.82	.17	47	76	72	59	52	51	44	42	42	32	31	stbd aft
OPS Office	02-115-2Q	1.1	.17	55	68	62	64	63	45	47	50	49	39	37	center
Radio Room	01-89-2C	1.8	.25	74	76	61	69	70	67	66	67	68	63	54	cntr fwd
CPO Mess	01-89-5L	3.6	.25	60	69	64	64	60	63	58	47	43	40	34	port cntr
Crew's Mess	1-73-1L	10.	.17	60	75	70	68	71	63	58	53	46	42	35	port cntr
Ship's Office	1-81-2Q	2.2	.21	76	65	69	65	66	62	65	56	54	48	45	cntr aft
Log Room	1-89-2L	2.3	.08	60	71	58	60	71	61	51	49	47	44	39	center
Sickbay	2-133-2L	2.6	.17	62	74	74	68	64	65	58	56	53	50	46	center
OPS Berthing	3-169-1L	5.2	.08	69	74	73	82	75	70	65	63	58	52	45	stbd cntr
2nd Div. Berth	3-169-2L	4.4	.17	59	82	85	72	70	64	68	50	45	38	30-	port aft
Crew Lounge	4-129-4L	7.2	.29	70	74	72	69	68	64	62	63	67	53	47	center

Data transcribed from form WOSC 3960/15. Survey date: 5 Jun 78. Ship cold iron.
 Surveyed by RPK, LM. Instrumentation: GR 1982.

BIBLIOGRAPHY OF RELATED NOSC DOCUMENTS

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TD 267, Behavioral and Physiological Effects of Noise on People: a review of the literature, by DR Lambert and FS Hafner, 30 April 1979.

TD 243, Airborne Noise Levels on Merchant Ships, by DR Lambert, 30 April 1979.

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TR 559, Requirements for Sleep, Solving Problems, and Speech Communication in Shipboard Compartments, by DR Lambert, May 1980.

TR-___, Airborne Noise Limits for Navy Ships, by DR Lambert (in preparation).

APPENDIX A: NOSC FORM 3960/15

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NOISE DATA FORM #3

COMPARTMENT NAME _____ VOLUME _____ cu ft SHIP _____

SOUND PRESSURE LEVELS (dB):		Noise Sources	Notes (S#, etc.)	WEIGHTED (A) (C)	OCTAVE BAND ANALYSIS				
Date	Ship Stat				32	63	125	250	500 1k 2k 4k 8k
---	---	/							
---	---	/							
---	---	/							
---	---	/							
---	---	/							

ABSORPTION:

Bulkheads (fwd) 0 1 2
 (stb) 0 1 2
 (aft) 0 1 2
 (prt) 0 1 2

Overhead 0 1 2
 Deck 0 1 2

TOTAL _____

No of: people _____
 bunks/sofas _____
 padded chairs _____

COMPARTMENT SKETCH:

SHIP STATUS:

UC underway cruising
 UM underway maneuvering
 SMU steaming not underway (dockside)
 CI cold iron

NOISE SOURCES:

V Ventilation
 L Loudspeaker
 P Propulsion
 E Equipment
 O Other

COMPARTMENT SKETCH:

M Measurement location
 P Photo
 /--/ Entrance
 Estimate dimensions to nearest foot.
 May write A-levels on sketch.

ABSORPTION: 0 Hard/reflecting (metal/concrete/plaster/paint/thin mats)
 1 Medium (wood panel/thermal insulation/lagged pipes/light drapes/thin carpet)
 2 Soft/absorptive (acoustical tile/thick carpet/carpet & pad)

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